

# PATENT COOPERATION TREATY

# PCT

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference J3734(C) rkk	<b>FOR FURTHER ACTION</b>	See item 4 below
International application No. PCT/EP2004/012754	International filing date ( <i>day/month/year</i> ) 08 November 2004 (08.11.2004)	Priority date ( <i>day/month/year</i> ) 19 November 2003 (19.11.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant UNILEVER PLC		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 <i>bis</i> .1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet.  In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input checked="" type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland  Facsimile No. +41 22 740 14 35	Date of issuance of this report 22 May 2006 (22.05.2006)  Authorized officer  <b>Agnes Wittmann-Regis</b>  Telephone No. +41 22 338 89 70
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# PATENT COOPERATION TREATY

REC'D 21 MAR 2005

WIPO

PCT

From the  
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/EP2004/012754

International filing date (day/month/year)  
08.11.2004

Priority date (day/month/year)  
19.11.2003

International Patent Classification (IPC) or both national classification and IPC  
A61K7/06, A61K7/08

Applicant  
UNILEVER PLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basils of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and Industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1b/s(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/012754

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/EP2004/012754

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**Box No. II Priority**

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1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

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**Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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1. Statement

Novelty (N)	Yes: Claims	1-12
	No: Claims	
Inventive step (IS)	Yes: Claims	1-12
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**Item V:**

**Reasoned statement under Rule 43bis1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement.**

- 1) The following documents D1-D3 from the international search report are mentioned for the first time in this written opinion. The numbering will be adhered to in the rest of the procedure:

D1 = EP-A-1 121 925

D2 = EP-A-0 100 164

D3 = EP-A-0 956 850

- 2) The present claims 1-12 meet the novelty requirement under Article 33(2) PCT, because no prior art of record teaches the invention as presently claimed. Indeed, none of the available prior art documents teaches a composition comprising specific amounts of (a) water, (b) C<sub>16-22</sub>-alkyl trimethylammonium salt, (c) C<sub>16-22</sub> - dialkylethyl dimethylammonium salt, (d) a C<sub>12-22</sub> fatty material, and (e) an alkali metal halide, wherein the weight ratio of (b)/(c) is from 15:1 to 2:1.

D1 pertains to a hair care composition which decreases body odours and environmental odours in the hair and which is in the form of an aqueous or aqueous-alcoholic composition, and comprising (a) cetyl trimethylammonium chloride (i.e. Dehyquart A) and (b) N,N-bis-(2-palmitoyloxyethyl)-dimethylammonium chloride (i.e. Armocare VGH-70) (see composition 1 of Table 2 from the example). However, no alkali metal halide is present and the ratio (a)/(b) is not comprised between 2 to 15.

D2 relates to an aqueous clear single-phase liquid hair rinse conditioner comprising an alkyl trimethylammonium salt (cetyl trimethylammonium bromide) and an alkali metal halide (sodium chloride) (see examples 7 and 8). However, no dialkylethyl dimethylammonium salt is present in the exemplified compositions, nor is this compound suggested.

D3 discloses hair care products such as a hair conditioner comprising a quaternary ammonium compound. The quaternary ammonium product is preferably a monoalkylquat or a diesterquat. Typical examples of an alkylquat is cetyl trimethylammonium chloride and of a diesterquat is dipalmitoylethyldimonium chloride (i.e. Armocare VGH-70). However, none of the examples contains both components,

nor thus these examples comprise an alkali metal halide.

- 3) In addition, the subject-matter of the present claims 1-12 also involves an inventive step and therefore satisfies the criterion set forth in Article 33(3) PCT.  
Indeed, none of the afore mentioned documents teaches nor even suggests that the particular combination of C<sub>16-22</sub>-alkyl trimethylammonium salt, C<sub>16-22</sub>-dialkylethyl dimethylammonium salt and alkali metal halide salt can confer improved opacity and reflectance on hair conditioning compositions, without the need for additional opacifiers. The comparative data given in the present specification demonstrate the necessity for all three components to be present in order to solve the technical problem underlying the invention. The results clearly show that the example according to the invention has greater lightness and hence opacity and reflectivity than the comparative examples.
- 4) The present claims 1-12 meet the requirement under Article 33(4) PCT, because the present invention is industrially applicable in the cosmetic field.